

ASA-1074

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

H. NEMOTO et al

Serial No.

Filed: February 28, 2002

For: METHOD AND DEVICE FOR INFORMATION RECORDING/
REPRODUCING AND INFORMATION RECORDING MEDIUM

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to the examination thereof, please amend the above-identified application as follows.

IN THE CLAIMS

Please cancel claim 4, and rewrite claims 1, 3, 5-8, and 11 as set forth below.

1. (Amended) An information recording/reproducing method, comprising the steps of:

applying a magnetic field to form a magnetic recording domain whose magnetic wall orientation is along a thermal distribution direction, while heating partially a recording medium for storing an information with the recording magnetic domain of a magnetic recording layer on a substrate surface, and

scanning on the recording medium so that a magnetic flux from the magnetic recording domain is detected to reproduce by a magnetic flux detecting means whose long

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magnetic domain is in accord with the magnetic wall orientation of the magnetic recording domain.

3. (Amended) An information recording/reproducing apparatus for a magnetic recording medium for storing an information with a recording magnetic domain in a magnetic recording layer formed on a substrate surface, comprising:

heating means for heating partially the recording medium, magnetic field applying means for applying a magnetic field to the vicinity of an area heated by the heating means, and a swing-arm-shaped supporting portion on which magnetic flux detecting means for detecting a magnetic flux on the recording medium is mounted, characterized in that a shape of the area of the magnetic recording medium heated by the heating means rotates in accordance with a rotational direction of the swing arm, and a longitudinal direction of the heated area by the heating means is substantially parallel to a longitudinal direction of the magnetic flux detecting means.

5. (Amended) An information recording/reproducing apparatus according to claim 3, characterized in that

the heating means is a light emitting means for forming a minute light spot, at least a part of the light emitting means is formed on the swing arm, and

an optical element for projecting the minute light

spot onto the recording medium, the minute light spot being elongated in a swing arm traversing direction relatively in comparison with a case without the optical element, is arranged on an optical path of the light emitting means.

6. (Amended) An information recording/reproducing apparatus according to claim 3, characterized in that a tracking position of the heating means is changed relatively with respect to a tracking position of the magnetic flux detecting means, in accordance with a radial position of a track scanned on the disk.

7. (Amended) An information recording/reproducing apparatus according to claim 2, characterized in that an optimum relative tracking position is obtained through a test writing and a test reading when the tracking position of the heating means is relatively changed with respect to the tracking position of the magnetic flux detecting means in accordance with a radial position of the track scanned on the disk.

8. (Amended) An information recording/reproducing apparatus and information recording medium according to claim 2, characterized in that the recording medium has an information recording layer on a substrate surface including recess-and-projection structure on the surface, and the

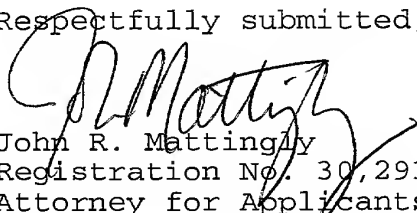
magnetic flux detecting means scans approximately a center of a circumferential projection area of the recording medium.

11. (Amended) An information recording medium according to claim 10, characterized in that the recording medium surface has the recess-and-projection structure representing [servo] the information, and the recess-and-projection structure is formed with an angle with respect to the track direction, varying according to respective radial position on the recording medium.

REMARKS

Examination is requested.

Respectfully submitted,


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